

## MANAGEMENT PROGRAMS FOR PLANTS ON FEDERAL LANDS

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**ABSTRACT.**—The plant phase of the Endangered Species Program is discussed from the point of view of a professional botanist in government service. Some of the new amendments are also discussed from a botanical standpoint. Federal agency programs and policies in the western United States are briefly reviewed. The strength of the Endangered Species Program is dependent upon input from qualified professional biologists in and out of government service. Some of the problems encountered in the program are outlined.

The comments I would like to make today are based on my experience with government agencies over the past several years. I do not speak as a representative of any government agency, although I have had experience with the Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), and the Forest Service (FS). First of all, let me point out that professional people who work for government agencies have a very frustrating and difficult task. They want to get on with the job that should and could be done, but cannot because of regulations, policies, and conflicts with the management and planning staff. There is a communication gap between professionals and managers and planners that needs to be bridged somehow. Until recently, some of these agencies were strictly management and planning oriented. Passage of new federal laws and regulations, such as the Endangered Species Act (ESA), created a need for these agencies to hire professionals with specialized training. It must be recognized that managers and planners have a difficult job making the proper decisions for the best uses of our natural resources and still be in tune with the multiple use concept. Our job as professionals is to supply managers and planners with sufficient data on any given problem or project, as it relates to our area of responsibility and expertise, so they can evaluate the pros and cons and in turn make the proper decisions. The active support of the Endangered Species Program (ESP) varies from agency to agency and from state to state within a given agency. For example,

California has an excellent and effective Threatened and Endangered (T/E) plant program at both the state and federal level. Both state and federal agencies there have active, qualified botanists. Additional professionals outside of government have also taken an active interest in the ESP.

In discussing various topics with the participants of this symposium, I was impressed with the need to clarify the responsibilities of the different agencies that participate in the ESP. As most of you know, the Fish and Wildlife Service has taken the lead in this program for terrestrial species and has the responsibility for developing and implementing regulations to guide other federal agencies and the states in meeting the purpose and intent of the ESP. To accomplish this task they have published guidelines to implement the Convention on International Trade for Endangered Species of Fauna and Flora, prohibitions on certain uses of endangered and threatened plants, criteria for determining critical habitat, and the Inner Agency Cooperative Section 7 Regulations. In addition, the Fish and Wildlife Service has the responsibility for the consultation process, as required by the Section 7 Regulations, and the listing and delisting processes. To most of us here the listing process is the activity the Fish and Wildlife Service should be moving forward with most rapidly. However, they have a disproportionate share of the work load and budgeting restrictions have been placed on them. Other major responsibilities of the Fish and Wildlife Service include law

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enforcement, land acquisition, cooperative agreements with states, and development of recovery plans and/or teams. The new amendments to the ESA require some changes in the program. One of the new amendments now allows for the acquisition of land for plants. Prior to these new amendments, Section 5 of the act, regarding land acquisition, was only for wildlife species or plants officially listed and concluded in appendices to the convention. This new amendment is a breakthrough for plants. As I understand it, the Forest Service, as well as the Department of the Interior, can now acquire land for plants. Formerly, the Department of the Interior was the only federal department that could acquire land. Additionally, there is the new requirement for development of recovery plans for all officially listed endangered and threatened species. In Utah we have two plant species officially listed that are either on or adjacent to Forest Service Lands. We will be developing additional background data for use in these two recovery plans. I have two slides on them. The first is of *Astragalus perianus*, which is endemic to two locations in the central part of Utah at high elevations. The species was originally collected in 1905 by some of our early botanists, but was not rediscovered until 1976. The other species is *Phacelia argillacea*, which is endemic to the Green River Shale formation along the railroad right-of-way in Spanish Fork Canyon. This is the only existing population that we know of, and only nine individual plants exist, based on counts made in 1978. In view of the restricted nature of this species, the Fish and Wildlife Service will place this one high on their priority list for development of a recovery plan.

The various phases of the program that the Fish and Wildlife Service are trying to develop and implement directly affect the activities of other federal agencies, particularly land-managing agencies such as the BLM, Forest Service, and National Park Service. As most of you know, the Forest Service and BLM are trying to develop active programs. The National Park Service apparently takes the position that threatened and endangered species in the parks are already protected and that they don't really need to do anything. However, as Stan Welsh pointed out,

the influx of people into these areas does have a detrimental effect on many T/E species that exist there. Some of the other agencies who have no lands to manage but have an impact on endangered and threatened species are the Bureau of Reclamation, the Soil Conservation Service, and the Navy, Army, and Air Force. For example, projects with which the Bureau of Reclamation is involved will destroy habitat. There is, therefore, a direct conflict with the purpose and intent of the ESA when endangered or threatened species are impacted by those projects. Some of those agencies are making no effort to determine the impact their projects have on these species. We as professionals, I feel, have the responsibility to become aware of their projects and to help provide these agencies with data and expertise. The trend among federal agencies is to solicit information and public opinion on various projects. How many of you are responding?

To comply with the objectives and policies of the Endangered Species Program, the BLM, Forest Service, and Fish and Wildlife Service have developed the following policy to insure protection for T/E species prior to official listing and protection under the Endangered Species Act. These agencies are considering all species that are likely to become endangered or threatened as though they are already officially listed to insure their actions do not jeopardize the existence of these species or modify their critical habitats. The degree of implementation varies within each agency from state to state and even within a given state. The strength of the program at these levels is dependent upon the professionals available to insure program development. There are very few plant taxonomists in government to help guide the program. Therefore, the scientific community must become more involved if we are to achieve a realistic program. The benefits of such a policy are fourfold: (1) protection of sensitive species prior to listing, which can and will meet the purpose and intent of the 1973 ESA, thereby (2) preventing the need for official listing of many T/E Species, (3) resulting in fewer legal restrictions and more management options for agencies, and (4) creating more benefits to the species and

project development. A major concern of federal agencies is to meet the requirements of Section 7 of the ESA, which reads

The Secretary shall review all programs administered by him and utilize such programs in furtherance of the purpose of this act. All other federal departments and agencies shall in consultation with and with the assistance of the Secretary utilize their authorities in furtherance of the purposes of this act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this act and by taking such action as necessary to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered and threatened species or result in the destruction or modification of habitat of species which is determined by the Secretary after a consultation with the affected states to be critical.

However, the overriding concern is to meet the purpose and policy of the ESA, "... to provide a means whereby ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species ... [and the] ... policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act."

It is my interpretation that the intent in the purpose and policy of the act is to conserve and protect species likely to be endangered or threatened with extinction in the foreseeable future. John Spinks has indicated that the Fish and Wildlife Service will only be able to list 20 to 30 species of plants in 1979. This is less than 1 percent of the 1785 proposed species. The Forest Service and Bureau of Land Management policy, if it is enforced, will provide the necessary protection for species which would otherwise become extinct due to the slow listing process. Furthermore, such a policy will minimize the need for official listing under the ESA.

Two other major problems in the plant program come to mind: (1) a lack of data on candidate and proposed species, and (2) inadequate lists of threatened and endangered plants. The latter is a result of insufficient data. Therefore, we must emphasize the need for additional inventories to determine the range of these species, their habitats, information on population biology, threats to

their survival, and management problems. Presently a lack of funds is the biggest obstacle in developing an efficient data base. Some contracts have been let, and the current trend is to acquire these data through new contracts. Once we determine the locations of the T/E plants, we have to go back to these specific locations and obtain sufficient data for use in management programs. My assigned topic today was on management programs for plants on federal lands. The fact is federal agencies have formulated few or no management programs for most plants because we are in the inventory stage at the present time. We do have sufficient data on some species to make recommendations on listing or delisting from candidate and proposed lists and establish monitoring studies for others. The purpose of these monitoring studies is to acquire additional data on the status of the populations, their trends, condition of the habitat, and the biological needs of the species to develop realistic management programs for their protection and recovery, if possible.

California has an active program that places them well ahead of other states. Most of the other western states are developing programs. Much of this effort is from the professional and private sectors and the rest from federal and state agencies. The state government, in most states, has shown the least interest and, in general, leans more to development. Four federal agencies will issue contracts for plant inventories in Utah this year. It is hoped these studies will be conducted by qualified professionals. In addition, we have established coordinating committees for state, federal, professional, and amateur botanists in most of the western states to avoid duplication of effort and coordinate program activities. Botanists in Utah have now established a Utah Native Plant Society. One function of the society will be to help implement a T/E plant program for the state. It is hoped our program will be as successful as that in California. We solicit your membership if you have an interest in the native flora of Utah.

Most federal agencies do not employ plant taxonomists. Fortunately, they do have some biologists with sufficient interest and background to help develop a plant program. The

Forest Service will hold training sessions for existing range and wildlife staff to familiarize them with T/E species in their areas of responsibility. As a zone botanist, I am responsible for the Forest Service T/E plant program in Utah and Nevada. Within this area there will be from two to three hundred projects requiring site inspections for T/E plants. With the current level of funding and available staff we can expect to look at only 10 percent of these projects until more funding and personnel are available. We have, therefore, prioritized the species and areas to be worked on. The initial effort is on critically endangered species. The following slides illustrate some of these. The first is *Phacelia argillacea*, which, as I mentioned earlier, is officially listed. Next is *Townsendia aprica*. It is known only from two populations and, as Stan Welsh indicated, one population had been destroyed by a gypsum operation. Only one population remains. *Arctomecon humilis* is restricted to the Moencopi formation in Washington County, Utah. It is more common, but the impacts to the area are so severe that immediate listing is necessary to insure protection.

Government-funded inventory contracts have resulted in range extensions for many of the proposed species, as well as the discovery of new species. *Psoralea pariensis* is a species described in 1975. Just a few years ago, *Primula specuicola* was known only from a few

collections along the Colorado River drainage system. Recent studies, as a result of the ESA, have provided many new locations and, even though from 30 to 40 percent of the habitat has been inundated by Lake Powell, official listing is not necessary.

In the West, much of the land is administered by federal agencies. Table 1 illustrates the number of acres under Forest Service, Bureau of Land Management, National Park Service, and Fish and Wildlife control. Probably 5 percent or less of all these acres will constitute critical habitat requiring protection for T/E plant species. However, until our inventories are complete, we will not know where that 5 percent of the 632,992,185 acres is. Again we must use a priority system for inventories, based on the minimal data available. To show another relationship, I have outlined the number of candidate, possibly extinct, proposed and officially listed species by state. Currently there are 15 plant species officially listed. More than half of them occur in California.

The new amendments now include plants in Section 6 of the act under Cooperative Agreements. Table 2 outlines the status of cooperative agreements with states prior to the new amendments. Even though plants were not included in Section 6 of the act, originally four states submitted proposals to the FWS requesting funds for plants. Naturally, none have qualified. However, Utah submitted

TABLE 1. Number of acres and T/E plants in the western United States.

State	BLM admin. acres	USES admin. acres	NPS admin. acres	FWS admin. acres	(1975 FR)	(1975 FR)	(1976 FR)	Officially listed plants*	
					Number of Candidate threatened species	Possibly extinct species	Number of Proposed endangered species	Threatened	Endangered
Alaska	272,673,528	20,622,014	7,306,037	22,236,273	21		6		
Arizona	12,596,043	11,219,839	1,629,943	877,200	106	5	65		
California	15,577,909	20,327,515	4,258,2123	68,944	415	28	282		13
Colorado	8,354,671	13,773,966	535,050	51,947	18	3	32		
Idaho	11,985,079	20,342,387	86,425	40,944	41		21		
Montana	8,141,498	16,767,962	1,159,505	539,340	8	1	3		
Nevada	48,373,664	5,112,755	262,321	2,202,045	85	6	48		
New Mexico	12,956,665	9,106,299	241,621	316,183	26	3	19		
Oregon	15,739,792	15,486,367	160,881	466,011	135	2	51		
Utah	22,641,037	7,990,271	885,936	97,944	102	7	65	1	1
Washington	306,692	9,069,287	1,801,428	128,466	72	2	19		
Wyoming	17,536,891	8,679,047	2,310,653	44,787	18	3	8		
Totals	446,883,469	158,397,709	20,640,923	7,070,084	1,047	60	619	1	14

\*22 species of the T/E plants have been officially listed.

their proposal in June 1977 for both plants and animals and is close to qualifying. This is based on my conversation with the Washington office of the FWS. Some states have heritage programs, and research natural area councils that have been extremely helpful in developing plant programs for the respective states.

Your attendance at this symposium is evidence of the interest shared by many Americans in preserving our unique flora and fauna. We can have the necessary development to sustain us and still preserve these valuable resources by having an open mind to the problems at hand. Let's help close the communication gap between scientists, environmentalists, and politicians.

#### QUESTIONS FOR DR. ATWOOD

Q. Is the listing of these taxa being coordinated because there are so few that are going to be listed? There

are strategies whereby protecting one species in a very interesting habitat would preserve maybe four or five others in the same area.

- A. It's my understanding that the Fish and Wildlife Service in-house policy is to develop listing packages on individual species. I think the best approach would be an ecosystem concept where there are two or three species, such as in Utah, where we have *Thelypodopsis argillacea*, *Glaucocarpum suffrutescens*, and *Crytantha barnebyi* in the Uinta Basin that occur in very similar habitats that are close together. This could be a neat package, and we may incorporate *Cryptantha grahamii*, which is nearby, and *Penstemon grahamii* so you could have four or five in one package. Now that they have the new regulations for conducting public hearings, one public hearing would take care of all of those.
- Q. Ninety percent of the projects are being completed without an inventory. Isn't that contrary to the law?
- A. Not really. It's contrary to in-house policy, but not to law. The law, of course, is only for listed species. We have few listed species, and the projects, of course, are not impacting those. Those are on our priority list. If they were impacted, we wouldn't allow the projects to continue.

TABLE 2. State programs for T/E plants in the western United States.

States*	Cooperative Agreements Under Sec. 6 of the ESA		Other State Programs	
	Animals	Plants	Heritage	Research natural areas
Arizona	None	None	Signature stage	Yes, inactive
California	Qualified on 6/23/76	None	Signature stage	Active program
Colorado	Qualified on 6/23/76	None	Proposal stage	?
Idaho	Trying to qualify	None	Proposal	Idaho Natural Areas Coord. Committee
New Mexico	Qualified on 6/23/76	None	Established in 1975, now handled by state fish and game	None
Nevada	None	None	None	None
Oregon	None	None	Established in 1973	State Natural Areas Preserves Committee
Utah	Trying to qualify	Proposal submitted by state on 5/04/77	None	
Washington	Qualified on 6/23/76	Proposal submitted in 1976	Started Fall 1977	Natural Areas Advisory Preserve Committee
Wyoming	None	Proposal submitted by state on 2/11/75	Established in 1978	?
Montana reviewed	State program being reviewed by FWS	State program being	Proposal State	?

\*23 states have qualified for cooperative agreement for wildlife programs.